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CLAIMS:

1.   Method of processing polychromatic attenuation values, wherein the
polychromatic attenuation values are acquired by means of a polychromatic source of
radiation generating a cone beam and radiation detector array with a plurality of
detector rows, wherein the plurality of detector rows are arranged adjacent to each other
5   in a first direction perpendicular to a second direction, wherein the second direction is
parallel to the plurality of detector rows, the method comprising the step of:
            assigning the monochromatic attenuation values to polychromatic
attenuation values;
            wherein the polychromatic attenuation values depend on the first
10   direction.

2.   Method of claim 1,
            wherein a three-dimensional look-up table is used for assigning the
monochromatic attenuation values to the polychromatic attenuation values; and
15   wherein the assignment of the monochromatic attenuation values to the
polychromatic attenuation values which depend on the first direction is such that
artifacts caused by a heel effect are at least partially suppressed.

3.   The method of claim 1, wherein the look-up table is generated in
20   accordance with the following steps:
            determining a spectrum of the source of radiation;
            determining mean energies of the spectrum;
            determining first projection data by taking into account the
polychromatic source of radiation, the detector array and a calibration object;
25   determining second projection data by taking into account a
monochromatic source of radiation, the detector array and the calibration object;
            generating a three-dimensional look-up table on the basis of the first and

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second projection data;

wherein the three-dimensional look-up table comprises monochromatic attenuation values for all corresponding polychromatic attenuation values for each detector row of the plurality of detector rows.

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4.   Method of generating a look-up table for correcting polychromatic attenuation values acquired by means of a polychromatic source of radiation generating a cone beam and a radiation detector array with a plurality of detector rows, wherein the source of radiation has a spectrum, the method comprising the steps of:

10   determining mean energies of the spectrum;

determining first projection data by taking into account the polychromatic source of radiation, the detector array and a calibration object;

determining second projection data by taking into account a monochromatic source of radiation, the detector array and the calibration object;

15 generating a three-dimensional look-up table on the basis of the first and second projection data;

wherein the three-dimensional look-up table comprises monochromatic attenuation values for all corresponding polychromatic attenuation values for each detector row of the plurality of detector rows.

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5.   The Method of claim 4,

wherein the plurality of detector rows is arranged adjacent to each other in a first direction perpendicular to a second direction which is parallel to the plurality of detector rows;

25   wherein the monochromatic attenuation values depend on the first direction; and

wherein the correction is such that artifacts relating to one of a beam-hardening effect and a heel effect are at least partially suppressed.

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6.   Data processing device comprising:

a memory for storing polychromatic attenuation values; and

a data processor for processing the polychromatic attenuation values, wherein the data processor is adapted to perform the following operation:

loading the polychromatic attenuation values acquired by means of a polychromatic source of radiation generating a cone beam and radiation detector array

5   with a plurality of detector rows, wherein the plurality of detector rows is arranged adjacent to each other in a first direction perpendicular to a second direction which is parallel to the plurality of detector rows;

assigning the polychromatic attenuation values to monochromatic attenuation values which depend on the first direction.

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7.   The data procession device of claim 6,

wherein the data processing device is part of a CT scanner system; and

wherein the assignment of the monochromatic attenuation values to the polychromatic attenuation values which depend on the first direction is such that

15   artifacts caused by one of a beam-hardening and heel effect are at least partially suppressed.

8.   Data processing device comprising:

a memory for storing polychromatic attenuation data; and

20   a data processor for generating a look-up table for correcting polychromatic attenuation values acquired by means of a polychromatic source of radiation generating a cone beam and radiation detector array with a plurality of detector rows, wherein the source of radiation has a spectrum and wherein the data processor is adapted to perform the following operation:

25   determining mean energies of the spectrum;

determining first projection data by taking into account the polychromatic source of radiation, the detector array and a calibration object;

determining second projection data by taking into account a monochromatic source of radiation, the detector array and the calibration object;

30   generating a three-dimensional look-up table on the basis of the first and second projection data;

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wherein the three-dimensional look-up table comprises monochromatic attenuation values for all corresponding polychromatic attenuation values for each detector row of the plurality of detector rows.

5   9.   The data processing device of claim 8,
                  wherein the data processing device is part of a CT scanner system; and
                  wherein the correction is such that artifacts relating to a heel effect are at least partially suppressed.

10   10.   Computer program for processing polychromatic attenuation values, wherein the computer program causes a processor to perform the following operation when the computer program is executed on the processor:
                  loading the polychromatic attenuation values acquired by means of a polychromatic source of radiation generating a cone beam and radiation detector array
15   with a plurality of detector rows, wherein the plurality of detector rows is arranged adjacent to each other in a first direction perpendicular to a second direction which is parallel to the detector rows; and
                  assigning the monochromatic attenuation values to polychromatic attenuation values which depend on the first direction.

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       11.   Computer program for generating a look-up table for correcting polychromatic attenuation values acquired by means of a polychromatic source of radiation generating a cone beam and radiation detector array with a plurality of detector rows, wherein the source of radiation has a spectrum, wherein the computer
25   program causes a processor to perform the following operation when the computer program is executed on the processor:
                  determining mean energies of the spectrum;
                  determining first projection data by taking into account the polychromatic source of radiation, the detector array and a calibration object;
30   determining second projection data by taking into account a monochromatic source of radiation, the detector array and the calibration object;
                  generating a three-dimensional look-up table on the basis of the first and

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second projection data;

wherein the three-dimensional look-up table comprises monochromatic attenuation values for all corresponding polychromatic attenuation values for each detector row of the plurality of detector rows.

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